

Herr-Paint Seq. Listing.U.S.ST25.txt
SEQUENCE LISTING

<110> University of Virginia Patent Foundation
 Gilmer, Linda
 Mandal, Arabinda
 Wolkowicz, Michael
 Klotz, Kenneth
 Herr, John

<120> Compositions and Methods for Identifying and Isolation Sperm for
 Forensic Applications

<130> 00952-04

<150> 60/542,499
 <151> 2004-02-06

<150> PCT/US2005/003910
 <151> 2005-02-07

<150> 60/581,945
 <151> 2004-06-22

<160> 6

<170> PatentIn version 3.3

<210> 1
 <211> 285
 <212> PRT
 <213> Homo sapiens

<400> 1

Met Asn Arg Phe Leu Leu Leu Met Ser Leu Tyr Leu Leu Gly Ser Ala
 1 5 10 15

Arg Gly Thr Ser Ser Gln Pro Asn Glu Ser Ser Gly Ser Ile Asp His
 20 25 30

Gln Thr Ser Val Gln Gln Leu Pro Gly Glu Phe Phe Ser Leu Glu Asn
 35 40 45

Pro Ser Asp Ala Glu Ala Leu Tyr Glu Thr Ser Ser Gly Leu Asn Thr
 50 55 60

Leu Ser Glu His Gly Ser Ser Glu His Gly Ser Ser Lys His Thr Val
 65 70 75 80

Ala Glu His Thr Ser Gly Glu His Ala Glu Ser Glu His Ala Ser Gly
 85 90 95

Glu Pro Ala Ala Thr Glu His Ala Glu Gly Glu His Thr Val Gly Glu
 100 105 110

Gln Pro Ser Gly Glu Gln Pro Ser Gly Glu His Leu Ser Gly Glu Gln
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Herr-Paint Seq. Listing.U.S.ST25.txt
120 125

115

Pro Leu Ser Glu Leu Glu Ser Gly Glu Gln Pro Ser Asp Glu Gln Pro
130 135 140
Ser Gly Glu His Gly Ser Gly Glu Gln Pro Ser Gly Glu Gln Ala Ser
145 150 155 160
Gly Glu Gln Pro Ser Gly Glu His Ala Ser Gly Glu His Ala Ser Gly
165 170 175
Glu Gln Ser Leu Gly Glu His Ala Leu Ser Glu Lys Pro Ser Gly Glu
180 185 190
Gln Ala Ser Gly Ala Pro Ile Ser Ser Thr Ser Thr Gly Thr Ile Leu
195 200 205
Asn Cys Tyr Thr Cys Ala Tyr Met Asn Asp Gln Gly Lys Cys Leu Arg
210 215 220
Gly Glu Gly Thr Cys Ile Thr Gln Asn Ser Gln Gln Cys Met Leu Lys
225 230 235 240
Lys Ile Phe Glu Gly Gly Lys Leu Gln Phe Met Val Gln Gly Cys Glu
245 250 255
Asn Met Cys Pro Ser Met Asn Leu Phe Ser His Gly Thr Arg Met Gln
260 265 270
Ile Ile Cys Cys Arg Asn Gln Ser Phe Cys Asn Lys Ile
275 280 285

<210> 2
<211> 697
<212> PRT
<213> Homo sapiens
<400> 2

Met Ile Ser Ser Lys Pro Arg Leu Val Val Pro Tyr Gly Leu Lys Thr
1 5 10 15
Leu Leu Glu Gly Ile Ser Arg Ala Val Leu Lys Thr Asn Pro Ser Asn
20 25 30
Ile Asn Gln Phe Ala Ala Ala Tyr Phe Gln Glu Leu Thr Met Tyr Arg
35 40 45
Gly Asn Thr Thr Met Asp Ile Lys Asp Leu Val Lys Gln Phe His Gln
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50

Ile Lys Val Glu Lys Trp Ser Glu Gly Thr Thr Pro Gln Lys Lys Leu
65 70 75 80

Glu Cys Leu Lys Glu Pro Gly Lys Thr Ser Val Glu Ser Lys Val Pro
85 90 95

Thr Gln Met Glu Lys Ser Thr Asp Thr Asp Glu Asp Asn Val Thr Arg
100 105 110

Thr Glu Tyr Ser Asp Lys Thr Thr Gln Phe Pro Ser Val Tyr Ala Val
115 120 125

Pro Gly Thr Glu Gln Thr Glu Ala Val Gly Gly Leu Ser Ser Lys Pro
130 135 140

Ala Thr Pro Lys Thr Thr Thr Pro Pro Ser Ser Pro Pro Pro Thr Ala
145 150 155 160

Val Ser Pro Glu Phe Ala Tyr Val Pro Ala Asp Pro Ala Gln Leu Ala
165 170 175

Ala Gln Met Leu Gly Lys Val Ser Ser Ile His Ser Asp Gln Ser Asp
180 185 190

Val Leu Met Val Asp Val Ala Thr Ser Met Pro Val Val Ile Lys Glu
195 200 205

Val Pro Ser Ser Glu Ala Ala Glu Asp Val Met Val Ala Ala Pro Leu
210 215 220

Val Cys Ser Gly Lys Val Leu Glu Val Gln Val Val Asn Gln Thr Ser
225 230 235 240

Val His Val Asp Leu Gly Ser Gln Pro Lys Glu Asn Glu Ala Glu Pro
245 250 255

Ser Thr Ala Ser Ser Val Pro Leu Gln Asp Glu Gln Glu Pro Pro Ala
260 265 270

Tyr Asp Gln Ala Pro Glu Val Thr Leu Gln Ala Asp Ile Glu Val Met
275 280 285

Ser Thr Val His Ile Ser Ser Val Tyr Asn Asp Val Pro Val Thr Glu
290 295 300

Herr-Paint Seq. Listing.U.S.ST25.txt

Gly val val Tyr Ile Glu Gln Leu Pro Glu Gln Ile Val Ile Pro Phe
305 310 315 320

Thr Asp Gln Val Ala Cys Leu Lys Glu Asn Glu Gln Ser Lys Glu Asn
325 330 335

Glu Gln Ser Pro Arg Val Ser Pro Lys Ser val val Glu Lys Thr Thr
340 345 350

Ser Gly Met Ser Lys Lys Ser val Glu Ser val Lys Leu Ala Gln Leu
355 360 365

Glu Glu Asn Ala Lys Tyr Ser Ser val Tyr Met Glu Ala Glu Ala Thr
370 375 380

Ala Leu Leu Ser Asp Thr Ser Leu Lys Gly Gln Pro Glu Val Pro Ala
385 390 395 400

Gln Leu Leu Asp Ala Glu Gly Ala Ile Lys Ile Gly Ser Glu Lys Ser
405 410 415

Leu His Leu Glu val Glu val Thr Ser Ile val Ser Asp Asn Thr Gly
420 425 430

Gln Glu Glu Ser Gly Glu Asn Ser val Pro Gln Glu Met Glu Gly Arg
435 440 445

Pro val Leu Ser Gly Glu Ala Ala Glu Ala val His Ser Gly Thr Ser
450 455 460

val Lys Ser Ser Ser Gly Pro Phe Pro Pro Ala Pro Glu Gly Leu Thr
465 470 475 480

Ala Pro Glu Ile Glu Pro Glu Gly Glu Ser Thr Ala Glu Gly Leu Met
485 490 495

Lys Pro Ala Met Ala Thr Ser Glu Arg Gly Gln Pro Pro Pro Cys Ser
500 505 510

Asn Met Trp Thr Leu Tyr Cys Leu Thr Asp Lys Asn Gln Gln Gly His
515 520 525

Pro Ser Pro Pro Pro Ala Pro Gly Pro Phe Pro Gln Ala Thr Leu Tyr
530 535 540

Leu Pro Asn Pro Lys Asp Pro Gln Phe Gln Gln His Pro Pro Lys Val
545 550 555 560

Herr-Paint Seq. Listing.U.S.ST25.txt

Thr Phe Pro Thr Tyr Val Met Gly Asp Thr Lys Lys Thr Ser Ala Pro
565 570 575

Pro Phe Ile Leu Val Gly Ser Asn Val Gln Glu Ala Gln Gly Trp Lys
580 585 590

Pro Leu Pro Gly His Ala Val Val Ser Gln Ser Asp Val Leu Arg Tyr
595 600 605

Val Ala Met Gln Val Pro Ile Ala Val Pro Ala Asp Glu Lys Tyr Gln
610 615 620

Lys His Thr Leu Ser Pro Gln Asn Ala Asn Pro Pro Ser Gly Gln Asp
625 630 635 640

Val Pro Arg Pro Lys Ser Pro Val Phe Leu Ser Val Ala Phe Pro Val
645 650 655

Glu Asp Val Ala Lys Lys Ser Ser Asp Ser Gly Asp Lys Cys Ala Pro
660 665 670

Phe Gly Ser Tyr Gly Ile Ala Gly Glu Val Thr Val Thr Thr Ala His
675 680 685

Lys Arg Arg Lys Ala Glu Thr Glu Asn
690 695

<210> 3
<211> 350
<212> PRT
<213> Homo sapiens

<400> 3

Met Lys Pro Leu Val Leu Leu Val Ala Leu Leu Leu Trp Pro Ser Ser
1 5 10 15

Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu Gln Asn
20 25 30

Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg Ser Val Pro
35 40 45

Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser Pro Lys His Val
50 55 60

Tyr Ser Ile Ala Ser Lys Gly Ser Lys Phe Lys Glu Leu Val Thr His
65 70 75 80

Herr-Paint Seq. Listing.U.S.ST25.txt

Gly Asp Ala Ser Thr Glu Asn Asp Val Leu Thr Asn Pro Ile Ser Glu
85 90 95

Glu Thr Thr Thr Phe Pro Thr Gly Gly Phe Thr Pro Glu Ile Gly Lys
100 105 110

Lys Lys His Thr Glu Ser Thr Pro Phe Trp Ser Ile Lys Pro Asn Asn
115 120 125

Val Ser Ile Val Leu His Ala Glu Glu Pro Tyr Ile Glu Asn Glu Glu
130 135 140

Pro Glu Pro Glu Pro Glu Pro Ala Ala Lys Gln Thr Glu Ala Pro Arg
145 150 155 160

Met Leu Pro Val Val Thr Glu Ser Ser Thr Ser Pro Tyr Val Thr Ser
165 170 175

Tyr Lys Ser Pro Val Thr Thr Leu Asp Lys Ser Thr Gly Ile Glu Ile
180 185 190

Tyr Thr Glu Ser Glu Asp Val Pro Gln Leu Ser Gly Glu Thr Ala Ile
195 200 205

Glu Lys Pro Glu Glu Phe Gly Lys His Pro Glu Ser Trp Asn Asn Asp
210 215 220

Asp Ile Leu Lys Lys Ile Leu Asp Ile Asn Ser Gln Val Gln Gln Ala
225 230 235 240

Leu Leu Ser Asp Thr Ser Asn Pro Ala Tyr Arg Glu Asp Ile Glu Ala
245 250 255

Ser Lys Asp His Leu Lys Pro Ser Leu Ala Leu Ala Ala Ala Ala Glu
260 265 270

His Lys Leu Lys Thr Met Tyr Lys Ser Gln Leu Leu Pro Val Gly Arg
275 280 285

Thr Ser Asn Lys Ile Asp Asp Ile Val Thr Val Ile Asn Met Leu Cys
290 295 300

Asn Ser Arg Ser Lys Leu Tyr Glu Tyr Leu Asp Ile Lys Cys Val Pro
305 310 315 320

Pro Glu Met Arg Glu Lys Ala Ala Thr Val Phe Asn Thr Leu Lys Asn
325 330 335

Herr-Paint Seq. Listing.U.S.ST25.txt

Met Cys Arg Ser Arg Arg Val Thr Ala Leu Leu Lys Val Tyr
 340 345 350

<210> 4
 <211> 294
 <212> PRT
 <213> Homo sapiens

<400> 4

Met Ser Pro Arg Gly Thr Gly Cys Ser Ala Gly Leu Leu Met Thr Val
 1 5 10 15

Gly Trp Leu Leu Leu Ala Gly Leu Gln Ser Ala Arg Gly Thr Asn Val
 20 25 30

Thr Ala Ala Val Gln Asp Ala Gly Leu Ala His Glu Gly Glu Gly Glu
 35 40 45

Glu Glu Thr Glu Asn Asn Asp Ser Glu Thr Ala Glu Asn Tyr Ala Pro
 50 55 60

Pro Glu Thr Glu Asp Val Ser Asn Arg Asn Val Val Lys Glu Val Glu
 65 70 75 80

Phe Gly Met Cys Thr Val Thr Cys Gly Ile Gly Val Arg Glu Val Ile
 85 90 95

Leu Thr Asn Gly Cys Pro Gly Gly Glu Ser Lys Cys Val Val Arg Val
 100 105 110

Glu Glu Cys Arg Gly Pro Thr Asp Cys Gly Trp Gly Lys Pro Ile Ser
 115 120 125

Glu Ser Leu Glu Ser Val Arg Leu Ala Cys Ile His Thr Ser Pro Leu
 130 135 140

Asn Arg Phe Lys Tyr Met Trp Lys Leu Leu Arg Gln Asp Gln Gln Ser
 145 150 155 160

Ile Ile Leu Val Asn Asp Ser Ala Ile Leu Glu Val Arg Lys Glu Ser
 165 170 175

His Pro Leu Ala Phe Glu Cys Asp Thr Leu Asp Asn Asn Glu Ile Val
 180 185 190

Ala Thr Ile Lys Phe Thr Val Tyr Thr Ser Ser Glu Leu Gln Met Arg
 195 200 205

Herr-Paint Seq. Listing.U.S.ST25.txt

Arg Ser Ser Leu Pro Ala Thr Asp Ala Ala Leu Ile Phe Val Leu Thr
210 215 220

Ile Gly Val Ile Ile Cys Val Phe Ile Ile Phe Leu Leu Ile Phe Ile
225 230 235 240

Ile Ile Asn Trp Ala Ala Val Lys Ala Phe Trp Gly Ala Lys Ala Ser
245 250 255

Thr Pro Glu Val Gln Ser Glu Gln Ser Ser Val Arg Tyr Lys Asp Ser
260 265 270

Thr Ser Leu Asp Gln Leu Pro Thr Glu Met Pro Gly Glu Asp Asp Ala
275 280 285

Leu Ser Glu Trp Asn Glu
290

<210> 5
<211> 97
<212> PRT
<213> Homo sapiens

<400> 5

Met Asp Lys Gln Ser Ser Ala Gly Gly Val Lys Arg Ser Val Pro Cys
1 5 10 15

Asp Ser Asn Glu Ala Asn Glu Met Met Pro Glu Thr Pro Thr Gly Asp
20 25 30

Ser Asp Pro Gln Pro Ala Pro Lys Lys Met Lys Thr Ser Glu Ser Ser
35 40 45

Thr Ile Leu Val Val Arg Tyr Arg Arg Asn Phe Lys Arg Thr Ser Pro
50 55 60

Glu Glu Leu Leu Asn Asp His Ala Arg Glu Asn Arg Ile Asn Pro Leu
65 70 75 80

Gln Met Glu Glu Glu Glu Phe Met Glu Ile Met Val Glu Ile Pro Ala
85 90 95

Lys

<210> 6
<211> 853

Herr-Paint Seq. Listing.U.S.ST25.txt

<212> PRT
<213> Homo sapiens

<400> 6

Met Ser Glu Lys Val Asp Trp Leu Gln Ser Gln Asn Gly Val Cys Lys
1 5 10 15

Val Asp Val Tyr Ser Pro Gly Asp Asn Gln Ala Gln Asp Trp Lys Met
20 25 30

Asp Thr Ser Thr Asp Pro Val Arg Val Leu Ser Trp Leu Arg Arg Asp
35 40 45

Leu Glu Lys Ser Thr Ala Glu Phe Gln Asp Val Arg Phe Lys Pro Gly
50 55 60

Glu Ser Phe Gly Gly Glu Thr Ser Asn Ser Gly Asp Pro His Lys Gly
65 70 75 80

Phe Ser Val Asp Tyr Tyr Asn Thr Thr Thr Lys Gly Thr Pro Glu Arg
85 90 95

Leu His Phe Glu Met Thr His Lys Glu Ile Pro Cys Gln Gly Pro Arg
100 105 110

Ala Gln Leu Gly Asn Gly Ser Ser Val Asp Glu Val Ser Phe Tyr Ala
115 120 125

Asn Arg Leu Thr Asn Leu Val Ile Ala Met Ala Arg Lys Glu Ile Asn
130 135 140

Glu Lys Ile Asp Gly Ser Glu Asn Lys Cys Val Tyr Gln Ser Leu Tyr
145 150 155 160

Met Gly Asn Glu Pro Thr Pro Thr Lys Ser Leu Ser Lys Ile Ala Ser
165 170 175

Glu Leu Val Asn Glu Thr Val Ser Ala Cys Ser Arg Asn Ala Ala Pro
180 185 190

Asp Lys Ala Pro Gly Ser Gly Asp Arg Val Ser Gly Ser Ser Gln Ser
195 200 205

Pro Pro Asn Leu Lys Tyr Lys Ser Thr Leu Lys Ile Lys Glu Ser Thr
210 215 220

Lys Glu Arg Gln Gly Pro Asp Asp Lys Pro Pro Ser Lys Lys Ser Phe
225 230 235 240

Herr-Paint Seq. Listing.U.S.ST25.txt

Phe Tyr Lys Glu Val Phe Glu Ser Arg Asn Gly Asp Tyr Ala Arg Glu
 245 250 255
 Gly Gly Arg Phe Phe Pro Arg Glu Arg Lys Arg Phe Arg Gly Gln Glu
 260 265 270
 Arg Pro Asp Asp Phe Thr Ala Ser Val Gly Glu Gly Ile Met Thr Tyr
 275 280 285
 Ala Asn Ser Val Val Ser Asp Met Met Val Ser Ile Met Lys Thr Leu
 290 295 300
 Lys Ile Gln Val Lys Asp Thr Thr Ile Ala Thr Ile Leu Leu Lys Lys
 305 310 315 320
 Val Leu Leu Lys His Ala Lys Glu Val Val Ser Asp Leu Ile Asp Ser
 325 330 335
 Phe Leu Arg Asn Leu His Ser Val Thr Gly Thr Leu Met Thr Asp Thr
 340 345 350
 Gln Phe Val Ser Ala Val Lys Arg Thr Val Phe Ser His Gly Ser Gln
 355 360 365
 Lys Ala Thr Asp Ile Met Asp Ala Met Leu Arg Lys Leu Tyr Asn Val
 370 375 380
 Met Phe Ala Lys Lys Val Pro Glu His Val Arg Lys Ala Gln Asp Lys
 385 390 395 400
 Ala Val Ser Tyr Ser Leu Ile Ser Met Lys Gly Met Gly Asp Pro Lys
 405 410 415
 Asn Arg Asn Val Asn Phe Ala Met Lys Ser Glu Thr Lys Leu Arg Glu
 420 425 430
 Lys Met Tyr Ser Glu Pro Lys Ser Glu Glu Glu Thr Cys Ala Lys Thr
 435 440 445
 Leu Gly Glu His Ile Ile Lys Glu Gly Leu Thr Leu Trp His Lys Ser
 450 455 460
 Gln Gln Asn Glu Cys Lys Ser Leu Gly Phe Gln His Ala Ala Phe Glu
 465 470 475 480
 Ala Pro Asn Thr Gln Arg Lys Pro Ala Ser Asp Ile Ser Phe Glu Tyr

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Pro Glu Asp Thr Gly Asn Leu Ser Leu Pro Pro Tyr Pro Pro Glu Lys
      500                      505                      510

Pro Glu Asn Phe Met Tyr Asp Ser Asp Ser Trp Ala Lys Asp Leu Ile
      515                      520                      525

Val Ser Ala Leu Leu Leu Ile Gln Tyr His Leu Ala Gln Gly Gly Arg
      530                      535                      540

Arg Asp Ala Arg Ser Phe Val Glu Ala Ala Gly Thr Thr Asn Phe Pro
545                      550                      555                      560

Ala Asn Glu Pro Pro Val Ala Pro Asp Glu Ser Cys Leu Lys Ser Ala
      565                      570                      575

Pro Ile Val Gly Asp Gln Glu Gln Ala Glu Lys Lys Asp Leu Arg Ser
      580                      585                      590

Val Phe Phe Asn Ser Ile Arg Asn Leu Leu Ser Glu Thr Ile Phe Lys
      595                      600                      605

Arg Asp Gln Ser Pro Glu Pro Lys Val Pro Glu Gln Pro Val Lys Glu
      610                      615                      620

Asp Arg Lys Leu Cys Glu Arg Pro Leu Ala Ser Ser Pro Pro Arg Leu
625                      630                      635                      640

Tyr Glu Asp Asp Glu Thr Pro Gly Ala Leu Ser Gly Leu Thr Lys Met
      645                      650                      655

Ala Val Ser Gln Ile Asp Gly His Met Ser Gly Gln Met Val Glu His
      660                      665                      670

Leu Met Asn Ser Val Met Lys Leu Cys Val Ile Ile Ala Lys Ser Cys
      675                      680                      685

Asp Ala Ser Leu Ala Glu Leu Gly Asp Asp Lys Leu Gly Asp Ala Ser
      690                      695                      700

Arg Leu Thr Ser Ala Phe Pro Asp Ser Leu Tyr Glu Cys Leu Pro Ala
705                      710                      715                      720

Lys Gly Thr Gly Ser Ala Glu Ala Val Leu Gln Asn Ala Tyr Gln Ala
      725                      730                      735

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Herr-Paint Seq. Listing.U.S.ST25.txt

Ile His Asn Glu Met Arg Gly Thr Ser Gly Gln Pro Pro Glu Gly Cys
740 745 750

Ala Ala Pro Thr Val Ile Val Ser Asn His Asn Leu Thr Asp Thr Val
755 760 765

Gln Asn Lys Gln Leu Gln Ala Val Leu Gln Trp Val Ala Ala Ser Glu
770 775 780

Leu Asn Val Pro Ile Leu Tyr Phe Ala Gly Asp Asp Glu Gly Ile Gln
785 790 795 800

Glu Lys Leu Leu Gln Leu Ser Ala Ala Ala Val Asp Lys Gly Cys Ser
805 810 815

Val Gly Glu Val Leu Gln Ser Val Leu Arg Tyr Glu Lys Glu Arg Gln
820 825 830

Leu Asn Glu Ala Val Gly Asn Val Thr Pro Leu Gln Leu Leu Asp Trp
835 840 845

Leu Met Val Asn Leu
850